

AMENDMENT TO THE CLAIMS:

This listing of claims will replace all prior versions of claims in the application.

LISTING OF CLAIMS:

Claim 1 (currently canceled).

Claim 2 (previously canceled).

Claim 3 (currently amended): Apparatus as defined in claim 1 for generating power from a water current in a body of water, said apparatus comprising:

(a) a longitudinally extending flotation platform for maintaining said apparatus afloat in said body of water, said platform comprising:

(i) a forward part having opposed diverging sides extending outwardly and rearwardly from a forward end apex to first and second elongated rearward parts, said first rearward part extending longitudinally rearwardly from said forward part to a distal end of said first rearward part, said second rearward part extending longitudinally rearwardly from said forward part substantially parallel to said first rearward part to a distal end of said second rearward part; and,

(ii) a longitudinal opening extending downwardly through said platform between said first and second rearward parts;

and,

(b) a water turbine operatively carried by said platform for generating power in response to the water current in said body of water, said turbine comprising:

(i) a turbine rotor longitudinally extending transversely across said opening between opposed ends of the rotor, said rotor rotatably mounted to said platform for rotation about a rotor axis; and,

(ii) a plurality of relatively narrow, flexible elongated turbine blades arranged in circumferentially spaced rows extending along said rotor and extending outwardly from said rotor for operative communication with said water current through said downward opening, the blades in each of said rows being distanced from each other in succession by a space,

wherein said blades have lengths which vary substantially smoothly from relatively short lengths for those ones of said blades positioned towards said opposed ends of said rotor to relatively long lengths for those ones of said blades positioned towards the center of said rotor between said opposed ends.

Claim 4 (currently amended): Apparatus as defined in claim 1, wherein said rows are staggered such that the blades in a given one of said rows circumferentially align with spaces between blades in a row immediately circumferentially forward of the given row and with the spaces between blades in a row immediately circumferentially rearward of the given row.

Claim 5 (currently amended): Apparatus as defined in claim 4 for generating power from a water current in a body of water, said apparatus comprising:

(a) a longitudinally extending flotation platform for maintaining said apparatus afloat in said body of water, said platform comprising:

(i) a forward part having opposed diverging sides extending outwardly and rearwardly from a forward end apex to first and second elongated rearward parts, said first rearward part extending longitudinally rearwardly from said forward part to a distal end of said first rearward part, said second rearward part extending longitudinally rearwardly from said forward part substantially parallel to said first rearward part to a distal end of said second rearward part; and,

(ii) a longitudinal opening extending downwardly through said platform between said first and second rearward parts;

and,

(b) a water turbine operatively carried by said platform for generating power in response to [[a]] the water current in said body of water, said turbine comprising:

(i) a turbine rotor longitudinally extending transversely across said opening between opposed ends of the rotor, said rotor rotatably mounted to said platform for rotation about a rotor axis; and,

(ii) a plurality of relatively narrow, flexible elongated turbine blades arranged in circumferentially spaced rows extending along said rotor and extending outwardly from said rotor for operative communication with said water current through said downward opening, the blades in each of said rows being distanced from each other in succession by a space,

wherein:

said rows are staggered such that the blades in a given one of said rows circumferentially align with spaces between blades in a row immediately circumferentially forward of the given row and with the spaces between blades in a row immediately circumferentially rearward of the given row, and

said blades have lengths which vary substantially smoothly from relatively short lengths for those ones of said blades positioned towards said opposed ends of said rotor to relatively long lengths for those ones of said blades positioned towards the center of said rotor between said opposed ends.

Claim 6 (original): Apparatus as defined in claim ~~5~~, wherein said lengths of said blades vary substantially parabolically between said opposed ends.

Claim 7 (currently amended): Apparatus as defined in claim ~~4~~ 3, wherein said turbine is carried by said platform at an adjustable elevation in relation to said platform.

Claim 8 (currently amended): Apparatus as defined in claim ~~4~~ 3, further including means a chain and a pulley for adjusting the elevation of said turbine relative to said platform.

Claim 9 (currently amended): Apparatus as defined in claim ~~4~~ 3, further including a winch mounted on said platform and a mooring cable reelably wound on said winch, said cable attachable to an anchorage whereby downstream movement of said platform is restrained.

Claim 10 (currently amended): Apparatus as defined in claim ~~4~~ 3, further including a deflector mounted to said platform at said forward end for deflecting debris floating in said body of water.

Claim 11 (currently amended): Apparatus as defined in any one of claims ~~4~~, ~~3~~ to 10, wherein said opening is laterally bounded by opposed downwardly and longitudinally extending inner side walls for channelling water current communicating with said blades.

Claims 12 - 13 (currently canceled).

Claims 14 - 15 (previously canceled).

Claim 16 (currently canceled).

Claim 17 (currently amended): A water turbine ~~as defined in claim 16~~ comprising:

- (a) a turbine rotor longitudinally extending between opposed ends of the rotor; and
- (b) a plurality of relatively narrow, flexible elongated turbine blades extending outwardly from said rotor for communication with a water current, wherein:

(i) said blades are arranged in circumferentially spaced rows extending along said rotor;

(ii) in each of said rows said blades are distanced from each other in succession by a space; and,

(iii) said rows are staggered such that the blades in a given one of said rows circumferentially align with spaces between blades in a row immediately circumferentially forward of the given row and with the spaces between blades in a row immediately circumferentially rearward of the given row, wherein the lengths of said blades vary substantially smoothly from a minimum length for those ones of said blades positioned towards said opposed ends of said rotor to a maximum length for at least one of said blades positioned intermediate said opposed ends.

Claim 18 (original): A water turbine as defined in claim 17, wherein said blades have lengths which vary substantially parabolically between said opposed ends.

Claim 19 (previously amended): A method of generating power from a water current in a body of water, said method comprising:

- (a) providing a first power generation station, said station comprising
 - (i) a longitudinally extending flotation platform for maintaining said station afloat in said body of water, said platform comprising:
 - (A) a forward part having opposed diverging sides each extending outwardly and rearwardly from a forward end apex to first and second elongated rearward parts, said first rearward part extending longitudinally rearwardly from said forward part to a first distal end; said second rearward part extending longitudinally rearwardly from said forward part substantially parallel to said first rearward part to a second distal end; and,
 - (B) a longitudinal opening extending downwardly through said platform between said first and second rearward parts;

and,

- (ii) a water turbine operatively carried by said platform for generating power in response to the water current in said body of water, said turbine comprising:

- (A) a turbine rotor longitudinally extending transversely across said opening between opposed ends of said rotor, said rotor rotatably mounted to said platform for rotation about a rotor axis; and,
- (B) a plurality of turbine blades extending outwardly from said rotor for operative communication with said water current through said downward opening;
- (b) floating said station in said body of water with said forward end apex directed upstream in said water current;
- (c) controllably restraining downstream movement of said platform;
- (d) providing second and third power generation stations, each comprising a flotation platform substantially the same as the flotation platform of said first power generation station;
- (e) floating said second station in said body of water with the forward end apex of said second platform positioned proximate to said first distal end of said first platform; and,
- (f) floating said third station in said body of water with the forward end apex of said third platform positioned proximate to said second distal end of said first platform.

Claim 20 (previously canceled).

Claim 21 (previously presented): A method as described in claim 19, wherein said second and third power generation stations each comprise a water turbine substantially the same as the water turbine of said first power generation station.

Claim 22 (currently canceled).

Claim 23 (currently amended): A method ~~as defined in claim 22~~ of generating power from a water current in a body of water, said method comprising:

- (a) providing a first power generation station, said station comprising
 - (i) a longitudinally extending flotation platform for maintaining said station afloat in said body of water, said platform comprising:
 - (A) a forward part having opposed diverging sides each extending outwardly and rearwardly from a forward end apex to first and second elongated rearward parts, said first rearward part extending longitudinally rearwardly

from said forward part to a first distal end; said second rearward part extending longitudinally rearwardly from said forward part substantially parallel to said first rearward part to a second distal end; and,

(B) a longitudinal opening extending downwardly through said platform between said first and second rearward parts;

and,

(ii) a water turbine operatively carried by said platform for generating power in response to the water current in said body of water, said turbine comprising:

(A) a turbine rotor longitudinally extending transversely across said opening between opposed ends of said rotor, said rotor rotatably mounted to said platform for rotation about a rotor axis; and,

(B) a plurality of turbine blades extending outwardly from said rotor for operative communication with said water current through said downward opening;

(b) floating said station in said body of water with said forward end apex directed upstream in said water current; and

(c) controllably restraining downstream movement of said platform,

wherein:

said blades are relatively narrow, flexible elongated blades arranged in circumferentially spaced rows extending along said rotor;

in each of said rows said blades are distanced from each other in succession by a space; and

said blades have lengths which vary substantially smoothly from relatively short lengths for those ones of said blades positioned towards said opposed ends of said rotor to relatively long lengths for those ones of said blades positioned towards the center of said rotor between said opposed ends.

Claim 24 (currently amended): A method as defined in claim 22 ~~23~~, wherein said rows are staggered such that the blades in a given one of said rows circumferentially align with spaces between blades in a row immediately circumferentially forward of the given row and with the spaces between blades in a row immediately circumferentially rearward of the given row.

Claim 25 (currently amended): A method as defined in claim 24 of generating power from a water current in a body of water, said method comprising:

- (a) providing a first power generation station, said station comprising
 - (i) a longitudinally extending flotation platform for maintaining said station afloat in said body of water, said platform comprising:
 - (A) a forward part having opposed diverging sides each extending outwardly and rearwardly from a forward end apex to first and second elongated rearward parts, said first rearward part extending longitudinally rearwardly from said forward part to a first distal end; said second rearward part extending longitudinally rearwardly from said forward part substantially parallel to said first rearward part to a second distal end; and,
 - (B) a longitudinal opening extending downwardly through said platform between said first and second rearward parts;
 - and,
 - (ii) a water turbine operatively carried by said platform for generating power in response to the water current in said body of water, said turbine comprising:
 - (A) a turbine rotor longitudinally extending transversely across said opening between opposed ends of said rotor, said rotor rotatably mounted to said platform for rotation about a rotor axis; and,
 - (B) a plurality of turbine blades extending outwardly from said rotor for operative communication with said water current through said downward opening;
- (b) floating said station in said body of water with said forward end apex directed upstream in said water current; and,
- (c) controllably restraining downstream movement of said platform,

wherein:

said blades are relatively narrow, flexible elongated blades arranged in circumferentially spaced rows extending along said rotor;

in each of said rows said blades are distanced from each other in succession by a space;

said rows are staggered such that the blades in a given one of said rows circumferentially align with spaces between blades in a row immediately circumferentially forward of the given row and with the spaces between blades in a row immediately circumferentially rearward of the given row; and

said blades have lengths which vary substantially smoothly from relatively short lengths for those ones of said blades positioned towards said opposed ends of said rotor to relatively long lengths for those ones of said blades positioned towards the center of said rotor between said opposed ends.

Claim 26 (original): A method as defined in claim 25, wherein the lengths of said blades vary substantially parabolically between said opposed ends.

Claim 27 (currently amended): A method as defined in any one of claims 19, 21, or 23, to 26, wherein said opening is laterally bounded by opposed downwardly and longitudinally extending inner side walls for channelling water current communicating with said blades.

Claim 28 (original): A method as defined in claim 19, wherein said first and second distal ends each have an angle of taper which conforms with the angle at which said diverging sides of the forward part of said platform extend rearwardly from said forward end apex of said platform.